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EXAMINER

NGUYEN, TU MINH

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

1. An Applicant's Request for Reconsideration filed on March 2, 2006 has been entered. Based on this Request, an Applicant's Preliminary Amendment filed on December 5, 2005 has been entered. Claims 17-36 have been amended and are pending in this application.

Also based on this Request, the Office Action mailed on December 13, 2005 is hereby withdrawn; and a new non-final rejection is set forth below.

2. Since Applicant has elected the invention of the species of Figure 3 in an Applicant's Response to an Election/Restriction Requirement, claims 17-20, 23-32, and 34-36 are deemed readable thereon and will be examined in their full merit. Claims 21, 22, and 33 are withdrawn from further consideration by the examiner as being drawn to a non-elected invention.

Claim Objections

3. Claims 17, 19, 20, 31, 32, and 34 are objected to because of the following informalities:

- Claim 17, on line 2 of the claim, --at least one of-- should be inserted preceding "self ignition"; and "and/or" should read --and--. And on the last two lines of the claim, "convertor" should read --converter--.

- Claims 19 and 20, on line 2 of each claim, "by" should be deleted.

- Claim 31, on line 2 of the claim, --at least one of-- should be inserted preceding "self"; and "and/or" should read --and--. And on the last two lines of the claim, "convertor" should read --converter--.

Art Unit: 3748

- Claim 32, on line 2 of the claim, --at least one of-- should be inserted preceding “a delivery”; and “and/or” should read --and--.

- Claim 34, on line 2 of the claim, --is delivered-- should be inserted preceding “eccentrically”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17, 18, 23, 25, 26, 31, 32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Khair et al. (U.S. Patent 6,293,096).

Re claims 17 and 31, as shown in Figure 1, Khair et al. disclose an exhaust-gas cleaning system and a method for cleaning the exhaust gas of an internal combustion engine (line 11 of column 4) with at least one of self ignition and with direct fuel injection, the system comprising:

- at least one oxidizing catalytic converter (8, 14), disposed in an exhaust conduit of the engine,

- at least one device (8, 22), disposed downstream of the oxidizing catalytic converter for the selective catalytic reduction of the exhaust gases, and

- a delivery device (40), integrated with the at least one oxidizing catalytic converter (8), for delivering a reducing agent (hydrogen fuel) into the exhaust-gas stream of the engine,

wherein the delivery device (40) including a recess or a drilled-out opening in the wall of the oxidation catalytic converter (8) whereby the reducing agent can reach the exhaust stream without coming into contact with the oxidation catalytic converter (14).

Re claims 18 and 32, in the system and method of Khair et al., the delivery device (40) comprises a nozzle for atomizing the reducing agent.

Re claim 23, in the system of Khair et al., the outlet of the nozzle (40) is disposed in an outer peripheral region of the oxidizing catalytic converter (8), as clearly shown in Figure 1.

Re claim 25, in the system of Khair et al., the at least one oxidizing catalytic converter (14) with the delivery device (40) integrated with it, comprises a first housing; and wherein the device for selective catalytic reduction (22) comprises a second housing (20) adjoining the first.

Re claims 26, in the system of Khair et al., the at least one oxidizing catalytic converter (14) and the device for selective catalytic reduction (22) has a common housing (8).

Re claim 34, in the method of Khair et al., the reducing agent is delivered eccentrically inside the oxidizing catalytic converter (8).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3748

7. Claims 19, 24, 27 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khair et al. as applied to claims 17 and 18, respectively, above, in view of Oshima et al. (U.S. Patent 5,412,946).

Re claims 19 and 20, the system of Khair et al. discloses the invention as cited above, however, fails to disclose that the system further comprises a mixing device downstream of the delivery device, for distributing the reducing agent in the exhaust-gas stream.

As illustrated in Figure 6, Oshima et al. teach that it is conventional in the art to utilize a mixing device (10) downstream of a delivery device for distributing the reducing agent in the exhaust-gas stream. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Oshima et al. in the system of Khair et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to provide a thoroughly mixture of reducing agent and exhaust gas into a selective catalytic reduction device.

Re claim 24, in the modified system of Khair et al., the outlet of the nozzle (40) is disposed in an outer peripheral region of the oxidizing catalytic converter (8), as clearly shown in Figure 1.

Re claims 27, in the modified system of Khair et al., the at least one oxidizing catalytic converter (14) and the device for selective catalytic reduction (22) has a common housing (8).

8. Claims 28-30 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khair et al. as applied to claims 17 and 31, respectively, above, in view of Daetz et al. (U.S. Patent 6,880,328).

Re claims 28 and 35, the system and method of Khair et al. disclose the invention as cited above, however, fail to disclose that the exhaust-gas stream is carried through at least one further oxidizing catalytic converter upstream of the first oxidizing catalytic converter.

As shown in Figure 2, Daetz et al. teach that it is conventional in the art to place an oxidation catalyst (28) at an exhaust manifold so that the oxidation catalyst is adapted to reach an activation temperature quickly to purify exhaust gas during an engine start-up (lines 7-49 of column 2). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Daetz et al. in the system and method of Khair et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to purify exhaust gas during an engine start-up.

Re claim 29, in the modified system of Khair et al., as shown in Figure 2 of Daetz et al., the at least one further oxidizing catalytic converter (28) is disposed in the immediate vicinity of the combustion chambers of the engine.

Re claims 30 and 36, in the modified system and method of Khair et al., the exhaust-gas stream is carried through at least one further oxidizing catalytic converter (28) each in each exhaust conduit immediately downstream of the combustion chambers of the engine.

Prior Art

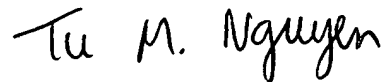
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of one patent application: Dalla Betta et al. (U.S. Patent Application 2004/0187483) further disclose a state of the art.

Communication

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TMN

Tu M. Nguyen

May 14, 2006

Primary Examiner

Art Unit 3748